IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA

Hartle et al., Plaintiffs, v. FirstEnergy Generation Corp., Defendant.	Civil Action No. 08-1019
Patrick et al., Plaintiffs, v. FirstEnergy Generation Corp., Defendant.	Civil Action No. 08-1025
Price et al., Plaintiffs, v. FirstEnergy Generation Corp., Defendant.	Civil Action No. 08-1030

MEMORANDUM OPINION

CONTI, Chief District Judge

I. Introduction

Before the court are expert challenges in three cases consolidated for discovery, *Hartle v. FirstEnergy Generation Corp.* (No. 08-1019), *Patrick v. FirstEnergy Generation Corp.* (No. 08-1025), and *Price v. FirstEnergy Generation Corp.* (No. 08-1030). These cases involve the Bruce Mansfield Power Plant ("Bruce Mansfield"), a coal-fired electric generating facility located along the Ohio River in Shippingport, Pennsylvania. Bruce Mansfield is owned and operated by defendant FirstEnergy Generation Corporation ("FirstEnergy" or "defendant"). The plaintiffs allege harm from air pollution discharged by Bruce Mansfield. The alleged pollution came in the form of "white rain," a chronically discharged corrosive material, and "black rain," a

dark-colored sooty residue discharged on two occasions in 2006 and 2007. The white rain and black rain were deposited on the area surrounding Bruce Mansfield, allegedly causing property damage and adverse health effects. The plaintiffs in *Hartle* are two parents seeking damages for adverse health effects sustained by their minor daughter. The named plaintiffs in *Patrick* are four couples who make class-action claims for damages due to diminution of property value and seek to enjoin the plant from operating until it can prevent the white rain emissions. In *Price*, nineteen plaintiffs seek injunctive relief and monetary damages for adverse health effects and property losses.

The parties took extensive fact and expert discovery in these cases. Defendant filed motions to limit or preclude the testimony of twelve of plaintiffs' experts. Plaintiffs filed motions to limit or preclude the testimony of seven of defendant's experts. This memorandum opinion addresses the parties' real estate valuation and damages experts: plaintiffs' expert John A. Kilpatrick, PhD ("Kilpatrick"), and defendant's experts Jerry M. Dent ("Dent") and Charles E. Finch ("Finch").[1] The motions to exclude these experts are fully briefed, and the court heard testimony and argument on October 15 and 16, 2013.

II. Legal Standards

Federal Rule of Evidence 702 governs the admissibility of expert testimony and states:

> A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

1 The testimony of Kilpatrick is at issue in the *Patrick* and *Price* cases only. The motions to exclude his testimony are ECF No. 181 (*Patrick*) and ECF No. 87 (*Price*). Dent and Finch collaborated on one expert report. The motions to exclude their report and testimony are ECF No. 110 (*Hartle*), ECF No. 202 (*Patrick*), and ECF No. 89 (*Price*). Unless otherwise noted, ECF numbers appearing in the text of this opinion refer to the *Patrick* case, No. 08-1025.

(a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;

(b) the testimony is based on sufficient facts or data;

(c) the testimony is the product of reliable principles and methods; and

(d) the expert has reliably applied the principles and methods to the facts of the case.

FED. R. EVID. 702. Under the seminal case of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), district courts must act as gatekeepers to "ensure that any and all scientific testimony or evidence admitted is … reliable."[2] *Id.* at 589. The United States Court of Appeals for the Third Circuit explained that Rule 702 "embodies a trilogy of restrictions" that expert testimony must meet for admissibility: qualification, reliability and fit. *Schneider ex rel. Estate of Schneider v. Fried,* 320 F.3d 396, 404 (3d Cir. 2003). The party offering the expert testimony has the burden of establishing each of these requirements by a preponderance of the evidence. *In re TMI Litig.,* 193 F.3d 613, 663 (3d Cir. 1999).

A. Qualification

An expert witness's qualification stems from his or her "knowledge, skill, experience, training, or education." FED. R. EVID. 702. The witness therefore must have "specialized expertise." *Schneider*, 320 F.3d at 404. The court of appeals interprets the qualification requirement "'liberally,' holding that 'a broad range of knowledge, skills, and training qualify an expert as such.'" *Calhoun v. Yamaha Motor Corp., U.S.A.*, 350 F.3d 316, 321 (3d Cir. 2003) (quoting *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 741 (3d Cir. 1994)). When evaluating an expert's qualifications, district courts should not insist on a certain kind of degree or

2 While *Daubert* applied exclusively to scientific testimony, *see Daubert*, 509 U.S. at 590 n.8, the Supreme Court subsequently extended the district court's gatekeeper function to all expert testimony. *Kuhmo Tire Co. v. Carmichael*, 526 U.S. 137, 147 (1999).

background. *Robinson v. Hartzell Propeller Inc.*, 326 F. Supp. 2d 631, 667 (E.D. Pa. 2004). An expert's qualifications are determined with respect to each matter addressed in the proposed testimony. *Calhoun*, 350 F.3d at 322 ("An expert may be generally qualified but may lack qualifications to testify outside his area of expertise."). "While the background, education, and training may provide an expert with general knowledge to testify about general matters, more specific knowledge is required to support more specific opinions." *Id.*

B. Reliability

In *Daubert*, the Supreme Court stated that the district court's gatekeeper role requires "a preliminary assessment of whether the reasoning or methodology underlying the testimony is … valid and of whether the reasoning or methodology properly can be applied to the facts in issue." *Daubert*, 509 U.S. at 592–93. The Court of Appeals for the Third Circuit enumerated the following eight factors that a district court may examine:

1. whether a method consists of a testable hypothesis;
2. whether the method has been subjected to peer review;
3. the known or potential rate of error;
4. the existence and maintenance of standards controlling the technique's operation;
5. whether the method is generally accepted;
6. the relationship of the technique to methods which have been established to be reliable;
7. the qualifications of the expert witness testifying based on the methodology; and
8. the non-judicial uses to which the method has been put.

In re Paoli R.R Yard PCB Litig., 35 F.3d 717, 742 n.8 (3d Cir. 1994) ("*Paoli II*"). This list of factors is a "convenient starting point," but is "neither exhaustive nor applicable in every case." *Kannankeril v. Terminix Int'l, Inc.*, 128 F.3d 802, 806–07 (3d Cir. 1997).

Under these factors, experts are not permitted to engage in a "haphazard, intuitive inquiry," but must explain the research and methodology they employed in sufficient detail in order to allow the other party's expert to test that hypothesis. *Oddi v. Ford Motor Co.*, 234 F.3d 136, 156 (3d Cir. 2000). Where an expert fails to use standards to control his or her analysis, "no 'gatekeeper' can assess the relationship of [the expert's] method to other methods known to be reliable and the non-judicial uses to which it has been put." *Id.* at 158.

"The evidentiary requirement of reliability is lower than the merits standard of correctness." *Paoli II,* 35 F.3d at 744. "'As long as an expert's scientific testimony rests upon good grounds, based on what is known, it should be tested by the adversary process—competing expert testimony and active cross-examination—rather than excluded from jurors' scrutiny for fear that they will not grasp its complexities or satisfactorily weigh its inadequacies.'" *United States v. Mitchell,* 365 F.3d 215, 244 (3d Cir. 2004) (quoting *Ruiz-Troche v. Pepsi Cola of P.R. Bottling Co.,* 161 F.3d 77, 85 (1st Cir. 1998)) (internal quotation marks omitted).

C. Fit

The Rule 702 requirement that testimony "help the trier of fact to understand the evidence or to determine a fact in issue" is called the "fit" requirement. Fit requires a "'connection between the scientific research or test result to be presented and particular disputed factual issues in the case.'" *Paoli II*, 35 F.3d at 743 (quoting *United States v. Downing*, 753 F.2d 1224, 1237 (3d Cir. 1985)). "'Fit' is not always obvious, and scientific validity for one purpose is not necessarily scientific validity for other, unrelated purposes." *Daubert*, 509 U.S. at 591. The standard for fit is "not that high," although it is "higher than bare relevance." *Paoli II*, 35 F.3d at 745.

III. Discussion

A. Defendant's Motions to Preclude the Testimony of Kilpatrick

Kilpatrick is plaintiffs' real estate damages expert. In his report, he opines about the diminution of property values due to the emissions from Bruce Mansfield and feasibility of determining the damages of the putative class using mass-appraisal techniques. Defendant does not challenge Kilpatrick's qualifications or the "fit" of his opinions. Defendant only challenges the reliability of his methodologies and application of those methodologies. Defendant filed an eighty-one page brief arguing that Kilpatrick's analysis is unreliable for a host of reasons.

Kilpatrick submitted an expert report ("Kilpatrick Rep.") and three rebuttal reports. In his report, Kilpatrick constructed a "mass appraisal model" to determine the impact of the white rain and black rain on property values in the areas affected by those events. As defined by Kilpatrick, a mass appraisal model is a method of simultaneously and systematically valuing a large number of properties. (Kilpatrick Rep. 42 n.1, ECF No. 221-5).

Based upon air modeling done by Ronald Petersen ("Petersen"), Kilpatrick divided the region affected by pollution from Bruce Mansfield into three subclasses: the area affected by the black rain event of July 22, 2006, the area affected by the black rain event of June 10, 2007, and the area affected by white rain. (*Id.* ¶ 22.) Kilpatrick applied his mass appraisal model to determine whether and to what extent residential properties in each area suffered a diminution in value. Kilpatrick used four valuation methods in his model: telephone and internet surveys, case studies of similar pollution incidents, meta-analysis of previously published research, and hedonic regression analysis of actual property values in the affected areas. (*Id.* at iii.) The results of the survey research indicated a diminution of 12 percent for properties in the white rain area and 45 percent for properties in one or both black rain areas. (*Id.* ¶¶ 78, 108.) The analysis of case studies most similar to the pollution alleged in this case showed a diminution in value of 20 to 39 percent. (*Id.* ¶ 82.) Three meta-analyses found

property value losses of 33, 34, and 76 percent, for an average of 48 percent. (*Id.* at 32, tbl.5.) The hedonic regression analysis of sales transactions found diminution of between 2 and 4 percent for the white rain area and about 14 percent for the black rain area. (*Id.* ¶ 100.)

To reconcile the approaches, Kilpatrick performed an "implicit weighting process … based on the quality and quantity of data coming from" the four methodologies. (Hr'g Tr. 126:22–25, Oct. 15, 2013, ECF No. 259.) He concluded that the hedonic model based upon sales prices should be given little weight because the market was uninformed about the extent of the contamination and that the 14 percent figure represented a "lower bound" estimate for properties in the black rain areas. (Kilpatrick Rep. ¶¶ 101–05.) After considering the similar results of the surveys, case studies, and meta-analyses, Kilpatrick opined that the overall diminution in value was 12 percent for the white rain area and 45 percent for the black rain area. (Hr'g Tr. 127:12–17, Oct. 15, 2013.) Kilpatrick concluded that a mass appraisal is the best technique for determining valuation and damages in this case. (Kilpatrick Rep. ¶ 108.)

Defendant argues that Kilpatrick's opinion is preliminary and not sufficiently definitive to be reliable. (ECF No. 220, at 3.) Defendant challenges the reliability of Kilpatrick's application of the four methodologies (surveys, case studies, meta-analysis, and hedonic regression). (*Id.* at 25–81.) Defendant challenges the reliability of Kilpatrick's reconciliation of the four methodologies (*id.* at 13–18), his alleged disregard of actual sales data (*id.* at 18–25), and his final conclusion that residential properties in each subclass uniformly diminished in value (*id.* at 5–13). Each of these contentions will be addressed below. For the reasons that follow, defendant's motions to exclude the expert testimony of Kilpatrick will be granted in part and denied in part.

1. Definitiveness of Kilpatrick's Opinion

Kilpatrick characterized his modeling results as "preliminary." (Kilpatrick Rep. ¶ 108, ECF No. 221-5.) The overall purpose of his report was to determine whether damages can be determined on a class-wide basis. (*Id.*) He testified that the application of model to actual residences and a final determination of diminution would happen after class certification. (Kilpatrick Dep. 318:24–319:2, Mar. 21, 2013, ECF No. 221-14.) Defendant argues that Kilpatrick's opinions should be precluded because a preliminary opinion does not give a fact finder sufficient information to reach a conclusion. (ECF No. 220, at 4.)

Plaintiffs argue that a final merits report is not required before class certification. (ECF No. 235, at 17, 24 ("[A]ll he is technically required to do at this stage is proffer appropriate opinion that the asserted real estate damages can be appropriately determined and adjudicated on a class-wide basis.").) Even so, plaintiffs assert that the results presented by Kilpatrick are actual, not merely proposed, and his opinions "are virtually near completion even as to merits." (*Id.*) Plaintiffs suggest that Kilpatrick can supplement his report after a class is certified.[3] (*Id.*)

Kilpatrick's opinion that property damages can best be calculated on a mass basis is sufficiently definite and certain to be admissible. Kilpatrick stated that it is his opinion,

> to a reasonable degree of appraisal certainty based on the above factors as well as my expertise and experience, that the matter at hand should use mass appraisal for valuation and damage assessment purposes. It is also my professional

3 At the hearing on plaintiffs' motion for clarification (ECF No. 150), held June 14, 2013, the court explained that expert reports should be sufficient for merits determinations. If, however, new information comes to light or something prompts the need for additional reports, the court will entertain a motion for supplementation after the class certification issue is decided.

> opinion that my mass appraisal model is credible and accurate under the facts of this case.

(Kilpatrick Rep. ¶ 108, ECF No. 221-5.) The damage calculations Kilpatrick identified as "preliminary" are ancillary to his opinion. He will need to supplement his report and reach final damage conclusions to a reasonable degree of certainty before such conclusions would be admissible. Kilpatrick's testimony with respect to the utility of mass appraisal techniques will not be excluded on the basis of uncertainty. Any additional reservations he expressed go to the weight of his testimony.

2. Reliability of Survey Research

Kilpatrick conducted three contingent valuation surveys. (Kilpatrick Rep. Ex. A, at 1, ECF No. 221-6.) In a contingent valuation survey, market participants are asked what they would be willing to pay for something contingent on a certain factor. (Hr'g Tr. 30:7–25, Oct. 15, 2013, ECF No. 259.) In this case, Kilpatrick asked survey participants how much they would be willing to pay for a house that was in a neighborhood affected by white rain (survey A), near coal and nuclear power plants but not affected by white or black rain (survey B), and affected by white and black rain (survey C). (Kilpatrick Rep. Ex. A, at 11–15, ECF No. 221-6.) By comparing the results of surveys A and C with the control survey B, Kilpatrick determined that property values in the black rain area suffered a diminution of up to 45 percent. (Kilpatrick Rep. ¶ 78.) Survey results reflected a loss of 12 percent for properties in the white rain area. (*Id.* ¶ 108.)

Experts rely on surveys in a variety of contexts, and courts generally accept reliable survey evidence. Shari Seidman Diamond, *Reference Guide on Survey Research*, *in* Reference Manual on Scientific Evidence 359, 361 (3d ed. 2011) [hereinafter "Diamond, *Survey Guide*"]. Courts hold that "mere technical flaws" in a survey's design or execution go to the weight to be afforded to the survey, not its admissibility. *Citizens Fin. Grp., Inc. v. Citizens Nat'l Bank of Evans City*, 383 F.3d

110, 121 (3d Cir. 2004). More fundamental flaws render survey results inadmissible. *Id.* (concluding that in a "reverse confusion" trademark case, a survey conducted outside the universe of the senior user's customer base was properly excluded).

Defendant challenges the admissibility of Kilpatrick's surveys. Defendant argues that the survey questions are inaccurate and misleading, the questionnaires were not appropriately pretested, the responses evince confusion by respondents, the respondents were not within the proper universe and not representative, and Kilpatrick's statistical analysis was flawed. (ECF No. 220, at 33.) For the reasons that follow, the court concludes that most of these flaws are of a technical nature and affect the weight of the testimony. The court concludes, however, that problems with the questions in the white rain survey render that survey fundamentally flawed and inadmissible.

Proper questions are critical to the reliability of a survey. "When unclear questions are included in a survey, they may threaten the validity of the survey . . . . If the crucial question is sufficiently ambiguous or unclear, it may be the basis for rejection the survey." Diamond, *Survey Guide*, at 388. Before respondents were questioned about how much they would be willing to pay, they were given a "fact card"—a factual scenario on which to base their responses. (Hr'g Tr. 45:22–46:11, Oct. 15, 2013, ECF No. 259.) The white rain fact card stated that

> the smokestack at the Shippingport plant releases a chalky substance known as white rain that contains fly ash components. The white rain has been released often and regularly for the past 30 years and is expected to continue. The white rain droplets are believed to fall currently within an 11-mile radius from the plant itself. The plant owners recommended that residents affected by fly ash wash their hands and faces after going outside and not to eat food grown in their gardens for a year after any exposure.

(*Id.* at 87:9–18.) The fact card stated that the fly ash contained toxic heavy-metal contaminants, including arsenic, cadmium, lead, and thallium, and radioactive elements, such as uranium and thorium. (*Id.* at 89:16–19.)

Bruce Mansfield warned affected residents to wash their hands before eating and avoid home-grown produce, but this was in relation to the black rain events, not white rain. (*Id.* at 88:7–89:4.) Plaintiffs allege that the black rain contained radioactive uranium and thorium, but the complaint does not allege that these elements were found in the white rain. (Compl. ¶ 27, ECF No. 1.) Because the white rain survey fact card contained facts that are only relevant to the black rain events, the court finds the white rain survey fundamentally flawed. Plaintiffs argue that "[t]he survey questions simply describe the universe in a manner consistent with the claims in the case." (ECF No. 235, at 48.) This is not accurate—the white rain survey questions conflate the black rain and white rain claims. Even if the jury were to find for the plaintiffs on the white rain claims, the results of the flawed white rain survey would not give the jury a proper basis for determining damages. This is not a mere "technical flaw"; it is fatal to the reliability of the survey.

The court does not find the same problem with the questions for the black rain survey. Although the black rain fact card also mentioned the radioactive elements and need for washing, these issues are sufficiently connected to the black rain claim. Inaccuracies with respect to the size of the area affected by black rain and lack of detail about the nuclear power plant are, in the court's view, errors of a technical nature that go to the weight of the survey.

Defendant's arguments with respect to insufficient pretesting, improper information gathering, confusion by respondents, nonrepresentative and nonrandom sampling, hypothetical bias, error rate, and inconsistent and unconventional statistical analysis are "technical flaws" that go to the weight rather than admissibility of the survey. *Citizens Fin. Grp.*, 383 F.3d at 121; *see Southland Sod Farms v. Stover Seed Co.*, 108 F.3d 1134, 1143 (9th Cir. 1997) (finding that alleged

leading questions and geographic limitation on survey respondents "go only to the weight, and not the admissibility, of the survey"); *McGraw-Edison Co. v. Walt Disney Prods.*, 787 F.2d 1163, 1172 (7th Cir. 1986) ("[T]he district court's concern regarding the manner of presentation to the interviewee goes to the weight to be accorded to the survey results rather than providing a reason to ignore the survey evidence altogether."); *Jellibeans, Inc. v. Skating Clubs of Ga., Inc.*, 716 F.2d 833, 844 (11th Cir. 1983) (holding that "(1) poor sampling; (2) inexperienced interviewers; (3) poorly designed questions; and (4) other errors in execution" constituted "technical deficiencies" affecting the survey's weight). The jury will be permitted to weigh these arguments and plaintiffs' responses.

3. Reliability of Case Studies

Kilpatrick examined cases involving environmental damage to properties. He examined seven "cost-to-cure" cases (Kilpatrick Rep. Ex. B, at 6), seven "contaminated soil" cases (*id.* at 9), two "stigma" cases (*id.* at 12), and six "contingent valuation" cases (*id.* at 16). In total, the case studies showed diminutions in value of 8.9 percent to 100 percent. (Hr'g Tr. 68:14–16, Oct. 15, 2013, ECF No. 259.) The cases Kilpatrick found most similar to the situation at Bruce Mansfield showed diminutions of 20 percent to 39 percent. (*Id.* at 68:17–20.) Kilpatrick found "a common theme" in these cases; namely, "the fact that environmental impairment, characterized by either contamination or stigma, affects property values negatively, and in many cases, by a substantial percentage of the unimpaired value." (Kilpatrick Rep. Ex. B, at 17).

Defendant argues that the case studies Kilpatrick found most similar to Bruce Mansfield have dissimilar facts. (ECF No. 220, at 68.) Defendant argues that the use of case studies is unreliable where the case study is not comparable to the case at bar, citing *Player v. Motiva Enterprises LLC*, Civil No. 02-3216, 2006 WL 166452 (D.N.J. Jan. 20, 2006). In *Player*, the plaintiffs alleged losses in property value due to environmental contamination. The plaintiffs' valuation expert quantified losses due

to stigma by comparison to one case, which was chosen not because it was similar, but because the expert did not know of any other case with data as readily available. *Id.* at *7. The expert multiplied the loss in the comparison case by two or three to account for differences between the cases. *Id.* at *8. The court found this methodology arbitrary and without any real standards. *Id.* The expert, who was also unqualified to opine about property valuation, was excluded. *Id.*

In this case, Kilpatrick reviewed twenty-two case studies, rather than one dissimilar case. From his review, Kilpatrick concluded that environmental impairment depresses property values. He developed a range of possible losses and did not multiply the losses by an arbitrary figure. In reconciling the four methodologies, Kilpatrick weighted the case-study analysis third. (Hr'g Tr. 45:4–8, Oct. 15, 2013, ECF No. 259.) He used the cases studies "as background supporting evidence" for his final valuation conclusions. (Kilpatrick Wilde Rebuttal Rep. ¶ 11 n.13, ECF No. 221-9.) Kilpatrick addressed critiques with respect to the similarity of the case studies to Bruce Mansfield. (*Id.* ¶¶ 9–36.) The case studies have commonalities to allegations in this case—for example, soil contaminated with arsenic and other heavy metals. (*See id.*) The disagreements about the amount of contamination and required remediation are matters of scope. (ECF No. 220, at 68.) A factual disagreement between experts is a matter for the jury to resolve. *Lansford-Coaldale Joint Water Auth. v. Tonolli Corp.*, 4 F.3d 1209, 1216 (3d Cir. 1993) ("[I]n a battle of the experts, the factfinder 'decide[s] the victor.'" (alteration in original) (quoting *Mendes-Silva v. United States*, 980 F.2d 1482, 1487 (D.C. Cir. 1993))). The court cannot, at this stage, exclude the case studies for lack of similarity. The court will entertain a renewed motion should the facts established during the liability phase show the case studies are dissimilar enough to warrant the exclusion of this expert testimony. For purposes of determining the class certification issue, the court will consider them as support for Kilpatrick's opinion that a mass appraisal methodology can be used, and not as evidence of actual diminution.

4. Reliability of Meta-Analysis

A meta-analysis involves synthesizing "a wide body of academic literature into quantitative data that can be analyzed using regression techniques." (Kilpatrick Rep. ¶ 87, ECF No. 221-5.) Kilpatrick performed two meta-analyses. The "Simons-Saginor" study developed a model based upon seventy-five peer-reviewed articles. (*Id.* Ex. C, at 2.) Kilpatrick found a diminution of 76 percent when he applied the Simons-Saginor meta-analysis. (*Id.* Ex. C, at 3.) Kilpatrick and his colleagues also developed their own meta-analysis by coding data from forty articles. (*Id.*) This meta-analysis found diminutions of 33 percent and 34 percent. (*Id.* Ex. C, at 10.) The average of the three runs was 48 percent. (*Id.* ¶ 95.) Kilpatrick used the meta-analysis as "background support" for his mass appraisal model, not "to assign final diminution estimates for each of the subclasses." (Kilpatrick Wilde Rebuttal Rep. ¶ 70, ECF No. 221-9.)

Defendant argues that the meta-analyses are flawed and not applicable to the case. Defendant asserts that the studies are subjectively coded, did not involve pollution from coal-fired power plants, favored significant rather than insignificant results, and were arbitrarily given disproportionate weight depending on how many observations were coded from a single study. (ECF No. 220, at 62–64.) Defendant argues that certain subjectively coded variables unduly influenced the results. (*Id.* at 66.) Defendant contends that the wide range of results (33 to 76 percent) evince an unreliable methodology. (*Id.*) According to defendant, attempting to reconcile "vastly non-comparable amenities and disamenities" in a single statistical model is not possible. (*Id.*)

Meta-analysis has been a tool in the scientific repertoire for many years. *See In re Paoli R.R. Yard PCB Litig.*, 916 F.2d 829, 858 (3d Cir. 1990) ("*Paoli I*") ("[H]undreds of meta-analyses are done each year . . . ."). There is no evidence that "meta-analysis is inaccurate as a mode of analysis." *Id.* To the extent defendant challenges the inherent accuracy of meta-analysis, those challenges are not

meritorious. The remaining question is whether Kilpatrick's application of the meta-analysis methodology to this case is sufficiently reliable to be admissible. The court concludes that it is sufficiently reliable in light of the purpose for which Kilpatrick employed the meta-analysis. As with the case study evidence, the court will consider the meta-analyses only as support for Kilpatrick's opinion about the usefulness of a mass appraisal methodology and not as evidence of actual diminution.

5. Reliability of Hedonic Regression Models

Kilpatrick used hedonic regression to model the effect of the alleged pollution on actual real estate prices. Hedonic regression is a type of multiple regression analysis that attempts to determine mathematically the value or price of the various components or characteristics that add up to the total value or utility. (Hr'g Tr. 8:21–9:6, Oct. 15, 2013, ECF No. 259.) For example, a hedonic model for a house might include variables such as square footage, number of bathrooms, and quality of neighborhood. (*Id.* at 9:6–9.) By inputting real-world data into the hedonic model, a researcher can obtain statistically reliable data explaining the variance in prices. (*Id.* at 12:7–13:11.) Hedonic regression modeling is used "millions" of times per year in a variety of real estate valuation contexts. (*Id.* at 9:13–16.)

In this case, Kilpatrick attempted to isolate the effect of the contamination from Bruce Mansfield. (Kilpatrick Rep. ¶ 96, ECF No. 221-5.) Kilpatrick analyzed sales data for residential properties within 22.7 miles of Bruce Mansfield. (*Id.* ¶ 97.) He ran a hedonic regression model comparing sales data before and after the black rain event of July 22, 2006. (Hr'g Tr. 17:18–24, Oct. 15, 2013, ECF No. 259.) The model showed that the diminution in value due to black rain was 14 percent. (Kilpatrick Rep. ¶ 100, ECF No. 221-5.) The diminution due to white rain was 4 percent within five miles from Bruce Mansfield and 2 percent further than five miles from Bruce Mansfield. (*Id.*)

Defendant challenges the hedonic regression analysis on seven grounds: (1) use of incomplete sales data; (2) improper exclusion of some sales data; (3) reliance on

inaccurate air modeling data; (4) use of inaccurate square footage data; (5) failure to incorporate important variables in the model; (6) failure to have adequate control variables; and (7) omission of model runs that showed no diminution.

Plaintiffs argue that (1) use of 3,500 sales was a sufficient sample; (2) trimming of "outlier" results was "the econometrically reasonable thing to do" (ECF No. 235, at 43); (3) inaccuracies in the air model do not affect Kilpatrick's opinion that damages can be evaluated on a mass basis and Kilpatrick can supplement his report to account for different modeling data; (4) the square footage data was not inaccurate and simply reflected the fact that, in the aggregate, house size tends to increase over time; (5) the model had a high level of statistical accuracy and adding additional variables could make the model overly "fragile" (Hr'g Tr. 10:12–20, Oct. 15, 2013, ECF No. 259); (6) the premise of defendant's argument with respect to control variables is incorrect; and (7) Kilpatrick excluded the model runs because they were inaccurate and turned over his work file, which included all data on the model runs he excluded.

Plaintiffs' responses are persuasive. Kilpatrick had "good grounds" for his choices in applying the hedonic regression analysis. *Paoli II,* 35 F.3d at 744. For example, even if the data relied on by the expert is "imperfect, and more (or different) data might have resulted in a 'better' or more 'accurate' estimate in the absolute sense, it is not the district court's role under *Daubert* to evaluate the correctness of facts underlying an expert's testimony." *i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 856 (Fed. Cir. 2010) (affirming admission of damage expert's testimony with respect to a reasonable royalty). Similarly, a regression analysis need not contain all relevant variables to be admissible. *Bazemore v. Friday*, 478 U.S. 385, 400 (1986) (Brennan, J., joined by all Members of the Court, concurring in part) ("Normally, failure to include variables will affect the analysis' probativeness, not its admissibility."). Kilpatrick's hedonic regression analysis is not "so incomplete as to

be inadmissible as irrelevant." *Id.* at 400 n.10. This testimony meets the threshold for admissibility.

6. Reliability of Reconciliation of the Four Methodologies

Kilpatrick took the results of his four methodologies (survey research, 12 to 45 percent; case studies, 20 to 39 percent; meta-analysis, 33 to 76 percent; and hedonic regression, 2 to 14 percent) and reached his ultimate result (45 percent diminution) through what he described as an "implicit weighting process." (Hr'g Tr. 126:22–24, Oct. 15, 2013, ECF No. 259.) Defendant challenges this "reconciliation" as nothing more than *ipse dixit*.

If Kilpatrick engaged in an "implicit weighting process," it would be the kind of "haphazard, intuitive inquiry" that district courts must exclude. *Oddi*, 234 F.3d at 156. His use of the word "implicit" appears merely inartful, however. Kilpatrick expressed how he ranked the methodologies. He found the hedonic model of actual sales prices least probative because real estate markets are "inefficient," meaning that "prices do not always reflect all available information." (Kilpatrick Rep. ¶ 101, ECF No. 221-5.) Kilpatrick examined "stacks and stacks" of real estate disclosure forms and found that sellers are not disclosing the pollution issues to buyers. (Hr'g Tr. 38:7–23, Oct. 15, 2013, ECF No. 259.) Due to the lack of knowledge in the marketplace, actual sales prices, as measured by the hedonic regression model, are not "fully capturing the true values of the underlying properties." (*Id.* at 42:1–14.) Because of this, Kilpatrick found the survey research to be the most compelling about what potential buyers with full knowledge would be willing to pay. (*Id.* at 45:3–6.) He ranked the meta-analyses and case studies a close second and third, respectively. (*Id.* at 45:6–8.)

The court concludes that Kilpatrick adequately explained how he reached his conclusion. The cases cited by defendant are distinguishable. In *Elcock v. Kmart Corp.*, 233 F.3d 734, 747 (3d Cir. 2000), a slip and fall case, the plaintiff's expert testified that the plaintiff was 50 to 60 percent disabled. Asked to describe his

methodology, the expert simply listed a variety of factors he considered, but he "never explained his method in rigorous detail." *Id.* The court of appeals found such *ipse dixit* testimony unreliable. *Id.* at 748. *In re Methyl Tertiary Butyl Ether ("MTBE") Products Liability Litigation*, MDL No. 1358, 2008 WL 2324112 (S.D.N.Y. June 5, 2008), is similarly inapposite. That case involved a claim for property diminution due to environmental contamination. Plaintiffs' real estate valuation expert opined that plaintiffs' properties lost 15 percent of their value due to the contamination. *Id.* at *3. The court, however, was

> unable to discern any method—much less a reliable method—that [the expert] used to reach his conclusion that the value of plaintiffs' property decreased by fifteen percent because of MTBE contamination. Rather, [the expert] has merely compiled market data and then offered his conclusions, yet he has failed to explain the relationship between the two.

Id. (footnote omitted). Kilpatrick thoroughly explained his methods and the relationship between the data and his conclusions.

The court will not deem Kilpatrick's conclusions unreliable due to the "reconciliation" process. Because the survey research weighed so heavily in Kilpatrick's conclusion, however, the court finds his conclusion with respect to the properties in the white rain area (a 12 percent diminution) is unreliable for the same reasons the white rain survey (which also found a 12 percent diminution) is unreliable.

7. Alleged Disregard of Actual Sales Data

Defendant argues that Kilpatrick's "disregard[]" for his hedonic regression model and actual sales data renders his opinions unreliable. Defendant cites as persuasive authority *Exxon Mobil Corp. v. Albright*, 71 A.3d 30 (Md. 2013), an environmental contamination case in which Kilpatrick was the plaintiffs' real estate valuation expert. Kilpatrick's testimony in *Albright* was based on similar methodologies to his proffered testimony in this case. He used the Simons meta-analysis, case studies, and a contingent valuation telephone survey. *Id.* at 101. He did not rely on

comparable sales data. *Id.* His conclusion was that plaintiffs' properties suffered a permanent diminution in value of 60 percent. *Id.* at 102.

Kilpatrick's reason for not relying on actual sales data was lack of an informed market:

> Dr. Kilpatrick did not discard the use of comparable sales data generally. In fact, he measured the value of plaintiffs' properties prior to the leak using actual transactional data. He opined, however, that the post-leak value of the properties at issue could not be calculated principally using comparable sales data because of the inherent unreliability of the comparable sales data in the post-leak Jacksonville community. In trying to establish this unreliability, Dr. Kilpatrick's report advanced a nuanced distinction between "market value" and "market price." Specifically, Dr. Kilpatrick stated that market value represents the true value of the property where the buyer and seller possess perfect and utterly complete information. Market price, by contrast, does not necessarily reflect perfect information. Because of the possibility that the buyer may be uninformed, Dr. Kilpatrick asserts that the market price of real estate reflects an artificial inflation over the market value. Here, Dr. Kilpatrick determined that the transactional data could not be relied upon because the sales in Jacksonville represented the market price, rather than the market value, stating that "disclosure of the ExxonMobil spill, and the risks of latent defects stemming from that spill, is not occurring in a reasonable fashion. The lack of information to buyers is creating market inefficiencies and thus sales transactions that do not represent market value."

Id. at 102–03. This testimony is strikingly similar to Kilpatrick's reasoning for giving actual sales data little weight in this case. The Maryland Court of Appeals was not persuaded by this explanation and determined that Kilpatrick's failure to account for actual sales data constituted a faulty methodology.[4] *Id.* at 102.

---

4 The standard for admissibility of expert testimony in Maryland is whether "(1) the witness is qualified as an expert by knowledge, skill, experience, training, or education; (2) the subject matter is appropriate for expert testimony; and (3) a sufficient factual basis exists to support the expert's opinion." *Albright*, 71 A.3d at 100.

Kilpatrick based his assessment of the inefficiency of the market upon "informal interview and surveys of real estate agents." *Id.* at 103. The court specifically discounted Kilpatrick's reliance on this evidence:

> These interviews, however, belie Dr. Kilpatrick's assertions. The surveyed real estate agents noted the difficulties in closing sales in the Jacksonville real estate market subsequent to announcement of the leak. Specifically, these agents noted that some buyers stayed away from the area surrounding the spill, with buyers refusing to "even look at the house because of the spill," or "look and then decide it's just too much to deal with." Other agents noted that prices were reduced dramatically in order to complete a sale; that disclosure forms were given to prospective purchasers; and in most cases, water tests were performed prior to the sale of residential properties in the Jacksonville area. Additionally, surveys of real estate mortgage lenders suggested that some financial institutions would not even agree to finance the purchase of a property with actual groundwater contamination. Taken together, these interviews and surveys suggest, contrary to Dr. Kilpatrick's assertions, that individuals in the Jacksonville real estate market were, in fact, informed regarding the leak, and that such information made it significantly more difficult to complete a sale; yet, there were nearly 180 sales after the leak was made public.

Id. (footnote omitted).

In this case, Kilpatrick based his "uninformed market" theory primarily on real estate disclosure forms showing that sellers are not disclosing the pollution episodes to buyers. (Hr'g Tr. 38:19–39:2, Oct. 15, 2013, ECF No. 259.) Defendant points to "extensive media coverage of the soot events" as evidence that the market is not uninformed. (ECF No. 220, at 22.) Unlike the Maryland Court of Appeals in *Albright*, this court does not have the benefit of a full trial on the merits. At this pre-merits stage, the court cannot resolve this factual dispute about the "dissemination of market knowledge." (Hr'g Tr. 128:1–129:15, Oct. 15, 2013, ECF No. 259.) The court will not exclude Kilpatrick's testimony on this ground.

The court is troubled, however, by another aspect of Kilpatrick's "uninformed market" theory. The court in *Albright* cogently explained the issue:

> [F]air market value is the highest and best price at which a prospective buyer and a prospective seller will agree for the sale of a given property. Thus, even if we accepted, for the sake of argument, Dr. Kilpatrick's theory that prospective purchasers are ill-informed regarding the Jacksonville Exxon leak, the market prices represented by actual sales in the community still represent the highest and best price for the property—even if the buyers are paying, as Dr. Kilpatrick asserts, too much. Allowing the plaintiffs to recover damages for a hypothetical and speculative diminution in market value that may never materialize is to permit them a potential double recovery—"[i]f plaintiffs could recover for a decline in value that had not yet been reflected in prices, they could sell their homes immediately and receive a windfall: damages for as-yet unrealized diminution in value plus the full market price."

Albright, 71 A.3d at 103–04 (citations omitted) (quoting *Palmisano v. Olin Corp.*, Civil No. 03-1607, 2005 WL 6777561 (N.D. Cal. July 5, 2005)). At the *Daubert* hearing in this case, the court questioned Kilpatrick about this issue:

> THE COURT: Okay. And we talk about this lack of an informed market, and we know from the testimony here today that there are no disclosures going on in the buying and selling of the properties that were within the pertinent areas. But if they're not informed, why would we assume they are going to continue to be non-informed and so this wouldn't continue to have a non-effect on value?
>
> THE WITNESS: … The fact that your property is diminished in value might not be evidenced in the transactional market yet, but we're already beginning to see some evidence of that; and certainly as more and more evidence comes to play, as people become more and more aware, buyers become more and more aware, there is reason to believe that these prices will stagnate and eventually price and value lines will intersect with one another.
>
> THE COURT: How long is "eventually"?

> THE WITNESS: I wouldn't expect it would take long. In the Wyoming, Michigan, case that I cited today we saw that prices had stagnated as much as 25 percent once—in two years once there was full knowledge of the situation in the entire market.

(Hr'g Tr. 144:24–145:21, Oct. 15, 2013, ECF No. 259.)

Kilpatrick's expectation that price and value will coalesce soon—or at all—is not persuasive. The black rain events occurred seven and a half and six and a half years ago. If the market is still uninformed after that amount of time, as Kilpatrick argues, it is unreasonable to assume that this knowledge will suddenly become widespread in, for example, two more years. Kilpatrick identified no mechanism that would lead to such full knowledge. Although he pointed to the 14 percent diminution figure from the sales analysis as evidence that there is at least "a little bit of information permeating" the market (*id.* at 42:5–9), he provided no evidence showing that market knowledge and the diminution is increasing—they could be just as easily stagnant or decreasing. Kilpatrick's opinion about when the hypothetical "full knowledge" diminution will occur is pure speculation. This sort of conjecture is unreliable. The court will exclude his black rain opinion to the extent he opines about hypothetical "market value" diminution above "market price" losses. Therefore, he may opine about his hedonic regression model and its results, but may not opine about the results from the contingent valuation surveys. *See Palmisano*, 2005 WL 6777561, at *5 & n.5; *Albright*, 71 A.3d at 103–04.

8. Reliability of Unimpaired Value Calculation

In order to calculate the properties' "unimpaired value," Kilpatrick used a mass appraisal model based upon tax assessment data.[5] (Hr'g Tr. 28:14–16, Oct. 15, 2013, ECF No. 259.) The purpose of this analysis was to determine a "baseline" to which

5 From Kilpatrick's testimony at the *Daubert* hearing, it is unclear whether this mass appraisal model was a hedonic regression or not. (Hr'g Tr. 27:25–28:16, 112:25–114:8, Oct. 15, 2013, ECF No. 259.)

the impaired values could be compared. (*Id.*) Defendant challenges Kilpatrick's unimpaired valuation calculations on the following bases: (1) tax assessments are inherently unreliable; (2) Kilpatrick multiplied the assessed value by an arbitrary and contrived number in order to reach a sales price; (3) actual sales prices show that Kilpatrick's estimates had errors of 18 to 62 percent; (4) Kilpatrick admitted that the value of unique properties cannot be determined by his model; and (5) Kilpatrick used July 22, 2006, as the date for determining unimpaired value even though white rain had been reported since the 1970s.

The court finds that the first four arguments are matters of weight, not admissibility. Tax assessments may be unreliable, but as long as the assessments are consistent, they can be corrected by multiplying by an adjustment factor. (*Id.* at 21:18–22:24.) The adjustment factor was not arbitrary or contrived, but based upon a comparison of 3,500 sales with 3,500 tax assessments. (*Id.* at 23:3–20.) Actual sales that differ from Kilpatrick's predicted values may be due to circumstances such as non-arm's length transactions. (ECF No. 235, at 61.) These differences, at any rate, go to weight. Plaintiffs argue that the number of unique properties is "de minimus" and that they can be determined after class certification. (*Id.* at 62.)

The use of July 22, 2006, as the cut-off for unimpaired value is flawed. White rain is alleged to have been an issue since Bruce Mansfield was constructed in the 1970s. If the white rain affected property values, this should be reflected in the properties' tax assessment values. When the court asked Kilpatrick why white rain would not be accounted for by the tax assessments, Kilpatrick was unable to provide a satisfactory answer:

> THE WITNESS: Well, it's my understanding that the white rain didn't become a real nuisance until after the baseline of these tax assessments. In short, it's my understanding that the white rain is not captured in the tax assessment because the tax assessment baseline is from before the white rain became a noticeable nuisance.

> THE COURT: And there was some factual basis for that that was provided to you?
>
> THE WITNESS: No, it hasn't been provided to me. It's just that's my understanding of the baseline dates, the tax assessment date, as well as for the white rain starting up. In other words, it's my understanding that the tax assessment baseline is before people began to be significantly annoyed by the white rain.
>
> THE COURT: But you don't have any bases for that assumption.
>
> THE WITNESS: I don't.

(Hr'g Tr. 144:7–23, Oct. 15, 2013, ECF No. 259.) Even if the white rain was not appropriately accounted for in the tax assessments, it should be addressed by the adjustment factor that compared assessed values to actual sales prices. Kilpatrick answered that question by saying that it again was a matter of market knowledge. (*Id.* at 145:22–147:4.) Lack of knowledge makes even less sense in the context of white rain, which has allegedly occurred for more than thirty years. The court concludes that the unimpaired values of the white rain subclass are flawed and fail to meet the reliability threshold of *Daubert*. Kilpatrick will be precluded from testifying about diminution in value due to white rain based upon actual sales data. Since the white rain survey and hedonic regression will be excluded, and since the case studies and meta-analyses were only background support for his opinion, the court will exclude the entirety of Kilpatrick's white rain opinion.

9. Reliability of Opinion that Properties in Each Subclass Suffered a Uniform Diminution in Value

Defendant argues that Kilpatrick cannot accurately determine a single percentage diminution for each subclass. The white rain subclass contains approximately 74,000 residential properties and the black rain subclass contains more than 1,000 properties. (ECF No. 220, at 6–7.) These properties are in a variety of conditions, in neighborhoods that range from upscale to depressed, and near different amenities

and disamenities. (*Id.* at 7.) The properties also received different amounts of the alleged contamination. (*Id.* at 8.)

With respect to the white rain subclass, these arguments are moot, as the court has excluded the entirety of Kilpatrick's white rain opinion. With respect to the black rain subclass, the court finds that these arguments go to weight rather than admissibility. Kilpatrick's methodology considered variations by using tax assessment data, which should take differing qualities and amenities into account. Questions about commonality can be appropriately addressed in a motion for class certification. Kilpatrick's opinions will not be excluded on this basis.

B. Plaintiffs' Motions to Limit the Expert Testimony of Dent and Finch

Dent and Finch prepared an expert report ("DF Rep.") rebutting the opinions of Kilpatrick. Dent rebutted Kilpatrick's opinion that the effect of the alleged pollution on property values can be modeled en masse. Finch authored two sections of the report critiquing Kilpatick's statistical analysis. Plaintiffs argue that the expert opinions of Dent and Finch should be precluded because they lack the requisite qualifications to opine about real estate appraisal matters. (ECF No. 203, at 7.) Plaintiffs also assert that certain opinions constitute inadmissible legal conclusions. Each of these issues is addressed below.

1. Qualification

Dent has an undergraduate degree in finance and a master of business administration degree. (Hr'g Tr. 149:13–14, Oct. 15, 2013, ECF No. 259.) He holds real estate certifications from the Counselors of Real Estate, the Royal Institution of Chartered Surveyors, and the American Society of Appraisers. (*Id.* at 149–50.) Dent has more than twenty years' experience advising clients across the United States about property valuation matters in both litigation and nonlitigation settings. (*Id.* at 152.) His experience includes evaluating the effect of environmental issues, including air emissions, on property prices. (*Id.*)

Finch has an undergraduate degree in mathematics, a master of business administration degree with a concentration in finance, and a master's degree in economics. (*Id.* at 173:17–20). He has experience as an economic and financial consultant, and he is accredited by the National Association of Certified Valuation Analysts. (*Id.* at 173:25–174:2, 183:17–23.) Finch has testified about property valuation in environmental cases in both state and federal court, and his testimony included statistical analyses in more than ten cases over the past twenty years. (*Id.* at 175:1–17.)

Unlike Kilpatrick, neither Dent nor Finch is a certified real estate appraiser in Pennsylvania or any other state. (*Id.* at 162:22–24; Finch Dep. 15:14–17, May 16, 2013, ECF No. 213-10.) Plaintiffs argue that under Pennsylvania law, "any and all appraisal-related work" must be completed by a state-certified appraiser. (ECF No. 203, at 7.) Plaintiffs cite the Pennsylvania Real Estate Appraisers Certification Act, 63 PA. STAT. §§ 457.1–.19, which prohibits any person except a state-certified or licensed appraiser from performing appraisals related to federal or nonfederal real estate related financial transactions. *Id.* § 457.3. The kinds of transactions that require certified or licensed appraisers are

> (A) the sale, lease, purchase, investment in or exchange of real property, including interests in property, or the financing thereof;
>
> (B) the refinancing of real property or interests in real property; and
>
> (C) the use of real property or interests in property as security for a loan or investment, including mortgage-backed securities.

12 U.S.C. § 3350(5) (defining "real estate related financial transaction" under federal law); *see* 49 PA. CODE § 36.1 (defining "real estate-related financial transaction" identically under state law). None of the work performed by Dent or Finch with respect to this case qualifies as real-estate related financial transactions. Their lack

of Pennsylvania appraisal certification does not impact their ability to opine about valuation in this case. Not even Pennsylvania state courts require state licensure as a prerequisite for opining about real-estate valuation in circumstances that do not involve financial transactions. *See King v. West Penn Power Co.*, 946 A.2d 184, 187–88 (Pa. Commw. Ct. 2008) (holding that the trial court abused its discretion by excluding the valuation testimony of an expert without a real estate appraiser license in a condemnation proceeding).

The court concludes by a preponderance of the evidence that Dent and Finch have the requisite knowledge and experience to opine about environmentally related real-estate valuation. Under the Federal Rules of Evidence, qualification is judged "liberally." *Calhoun*, 350 F.3d at 321. "If the expert meets liberal minimum qualifications, then the level of the expert's expertise goes to credibility and weight, not admissibility." *Kannankeril*, 128 F.3d at 809.

2. Legal Conclusions

Plaintiffs argue that Dent offered opinions that constitute legal conclusions and are therefore inadmissible. Specifically, Dent opined that "[i]t is not possible for the four proposed class representatives, or for any number of potential representatives, to reflect the diverse properties and property interests in the proposed class." (DF Rep. 1, ECF No. 213-6.) Dent also opined that "property value impact allegedly caused by certain alleged emissions from the Plant, if any, can only appropriately be considered on an individual property basis and not on a class basis." (*Id.* at 15.)

In applying its discretion to determine whether expert testimony will help the trier of fact, the court "must ensure that an expert does not testify as to the governing law of the case." *Berckeley Inv. Grp., Ltd. v. Colkitt*, 455 F.3d 195, 217 (3d Cir. 2006). The court, as it indicated in its preliminary assessment, will not permit Dent to opine about whether the plaintiffs are representative of the proposed class. (*See* Hr'g Tr. 159:10–11, Oct. 15, 2013, ECF No. 259.) This is strictly a legal question for the court to resolve.

Dent's conclusion that valuation can only be appropriately determined on an individual basis rather than a class basis is a quasi-legal conclusion, but because it will be given to the court for purposes of determining the class certification issue, it will not be excluded. The court will determine the appropriate weight to give this opinion.

IV. Conclusion

Defendant's motions to preclude the expert testimony of Kilpatrick will be granted in part and denied in part. Kilpatrick will be precluded from offering his white rain opinion. He may testify about diminution in property value from black rain based upon his modeling of actual prices, but may not opine about hypothetical market value loss based upon his contingent valuation surveys. He may opine about comparable case studies and meta-analyses, but, keeping in mind that his opinion goes only to whether the damages may be determined on a mass basis, the court will consider this evidence as background support for his opinion, not as evidence of actual loss.

Plaintiffs' motions to preclude the expert testimony of Dent and Finch will be granted in part and denied in part. Dent will not be permitted to opine about the suitability of the plaintiffs as class representatives. The motions to exclude Dent and Finch will be denied in all other respects.

Appropriate orders will be entered.

Dated: March 31, 2014

/s/ Joy Flowers Conti
Joy Flowers Conti
Chief United States District Judge